NEMESIS - TCS

Nemesis-TCS 'Traction Control System
Installation manual KTM RC8R (twin coil)
Suitable for standard and race seat

IMPORTANT – To be read by ALL installers and owners

Terms of use
The presence of the Nemesis-TCS does not take away the responsibility of the rider to operate the bike correctly within their own abilities, the track conditions and the laws of physics.

The system is designed to achieve greater on-track performance by the use of power modulation during wheel slip events, but in no way should it be considered possible for the system to recover from every conceivable loss of grip. The onus for safety always rests with the rider to stay within his or her own abilities, and to ensure that the 'on-bike' equipment is programmed, setup correctly, and an appropriate TC level selected for the skill of the rider, the bike and the track conditions.

This equipment is intended for racing or track day performance use only and where exhaust emission controls are not applicable.

By installing and using the Nemesis-TCS you automatically indemnify Competition Systems Ltd, our suppliers and our authorised dealers from all first party or third party loss or damages. Normal components warranty is not affected

Copyright – Bike Sport Developments Ltd 2012

Bike Sport Developments Ltd – UK
Tel 0044 (0)1327 263942 – mail@bikesportdevelopments.co.uk

Installation – TCS_4C KTM RC8R Twin Coil AA (v02)

Author – Mick Boasman

Kit part No.	TCS-4C-KTM_RC8R TCOIL_AA
Application - KTM RC8R Twin coil version 2010 onwards, standard and race seat configuration.	

R speed pick up components	Part No	Checked	Qty
Rear speed bracket	CSD1322		1
M8 x 20 low head zinc disk bolts (Ducati spec) Pt No. 7070 083 20	CSP1034		5
Speed sensor	23813030401		1
M6 x 16 , SS Allen dome head screw - Speed sensor	CSP1019		2

Traction module components	Part No	Checked	Qty
Traction Control Module - 4c	CSP1048		1
TCS - 4C Horizontal back panel	CSD1378		1
TCS mounting panel	CSD1416		1
M5 x 40 zinc cap screw	CSP1031		4
M5 plain washer, zinc	CSP1032		12
M5 Nyloc, zinc	CSP1033		4
Upper spacers - D-8, ID-5.2 , L-8	CSD1323		4
Bobbin - Dia 10x17, M4 female	CSP1046		2
Small bobbin - 10mm dia - 8mm long - M4 male	CSP1051		4
M4 Nyloc Nut	CSF1051		4
M4 x 8 SS button head Allen screw	CSF1045		4

Wiring	Part No	Checked	Qty
Wiring loom - One piece	CSW1415		1
Opto coupler module – CSD1341	CSP1043		1
Throttel signal - quick link (red)	CSP1015		1

Display module components	Part No	Checked	Qty
TC-Pod Display module	TC-Pod		1
TC-Pod Spacer, round stepped tube	CSD1321		1
TC-Pod mount bracket	CSD1320		1
M3 x 8 button head - black	CSP1018		2
M6 x 35 s/s cap head screw - black	CSP1016		1
M6 x 75 zinc cap screw	CSP1035		1
Push button assembly - blue/green TC-Pod	CS972		1
Handlebar spacer 11mmOD x 9mm long - 6.5 ID	CSD1326		1

Miscelaneous components	Part No	Checked	Qty
Cable ties - 200mm x 4mm	CSP1021		10
Printed TCS manual			1
Printed TCS-4C-KTM_RC8R TCOIL_AA manual			1
Nemesis-TCS stickers	CSP1022		6

Copyright – Bike Sport Developments Ltd 2012

Bike Sport Developments Ltd – UK
Tel 0044 (0)1327 263942 – mail@bikesportdevelopments.co.uk

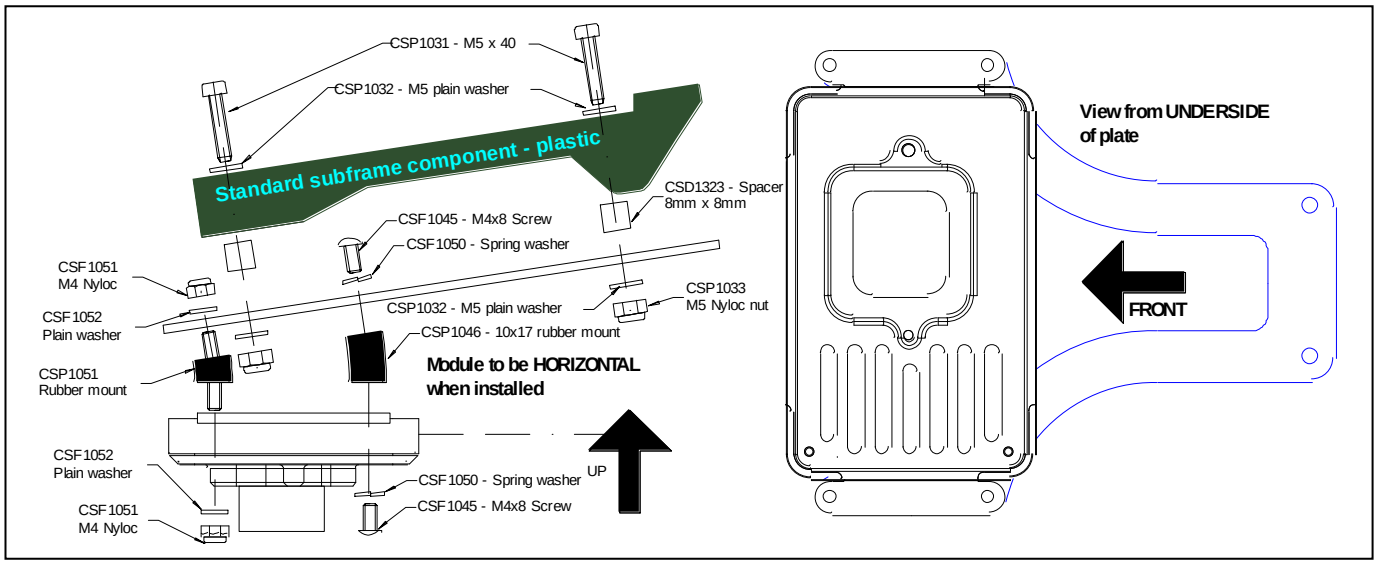
Installation – TCS_4C KTM RC8R Twin Coil AA (v02)

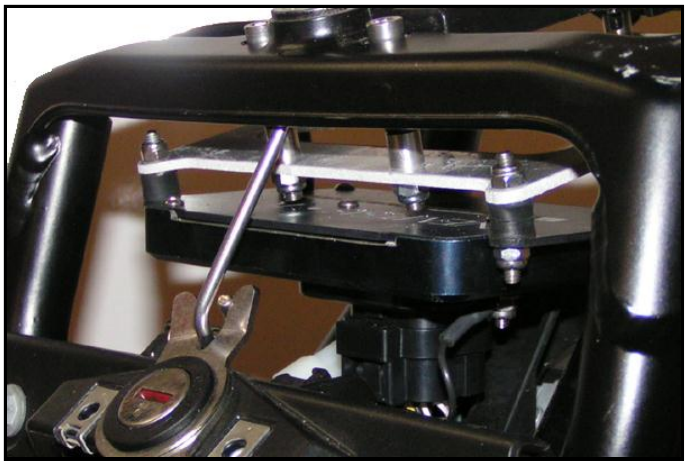
Author – Mick Boasman

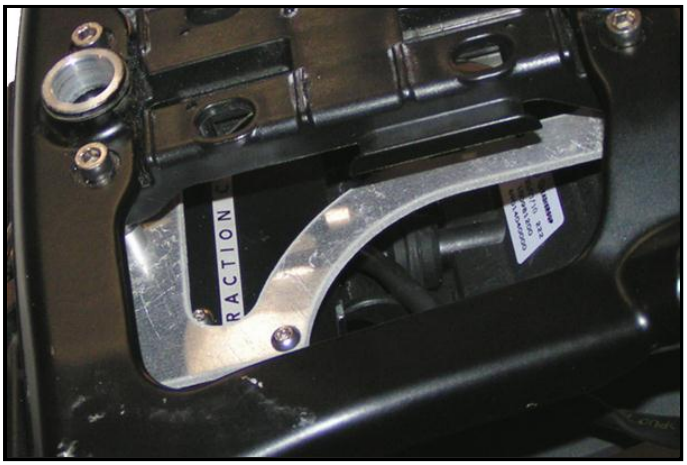
TC Module Mounting:

Image-1
These screws needs to be replaced by M5 Holes need to be drilled straight thou, screw secured by nut, when using standard seat.

- The TCS module mounts on the underside of the plastic tray pictured in ***image-1***. This tray must be modified by drilling out the 4 corner positions to be clearance on the M5 screws supplied with this kit.
- The TCS module attaches to the aluminium plate using the 2 short male/male rubber mounts at the front and the two female/female rubber mounts at the rear.
- When installed correctly the module should rest horizontally as see in these images.
- Because the module can be physically installed either way around. It is vitally important that the drawings and images are analysed to ensure you fit the module in the correct orientation.
- Re-fit the plastic panel and suspend the new aluminium panel beneath it using the 8mm long spacers, M5x40 cap screws and nyloc nuts.
- If necessary to ensure that the module is level after installation, use the spare M5 washers we supply in the kit.


CSP1031 - M5 x 40
CSP1032 - M5 plain washer
Standard subframe component - plastic
CSD1323 - Spacer 8mm x 8mm
CSF1045 - M4x8 Screw
CSF1050 - Spring washer
CSF1051 M4 Nyloc
CSF1052 Plain washer
CSP1032 - M5 plain washer
CSP1033 M5 Nyloc nut
CSP1046 - 10x17 rubber mount
CSP1051 Rubber mount
Module to be HORIZONTAL when installed
UP
CSF1052 Plain washer
CSF1050 - Spring washer
CSF1051 M4 Nyloc
CSF1045 - M4x8 Screw
View from UNDERSIDE of plate
FRONT

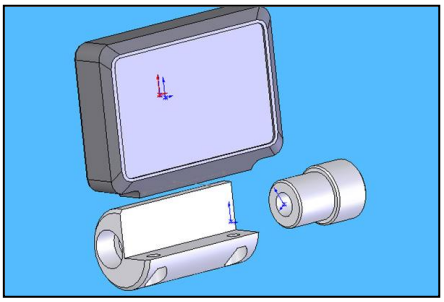


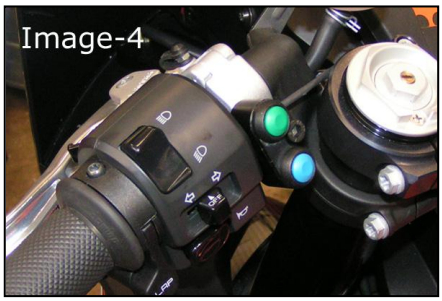


Copyright – Bike Sport Developments Ltd 2012

TC-Pod (Display) Fitting:

- The Display pod is fitted to the left side of the headlight assembly as seen in ***Image-3***
- The mounting assembly uses these parts.
  - M6 x 75 cap bolt x 1
  - M3 x 8mm Button head screw x 2

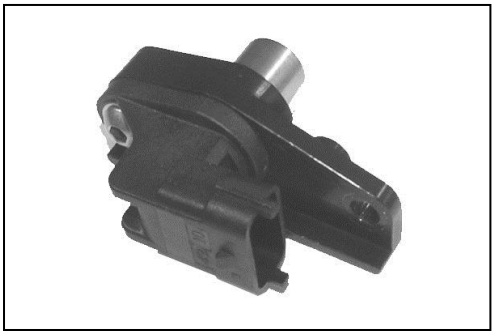


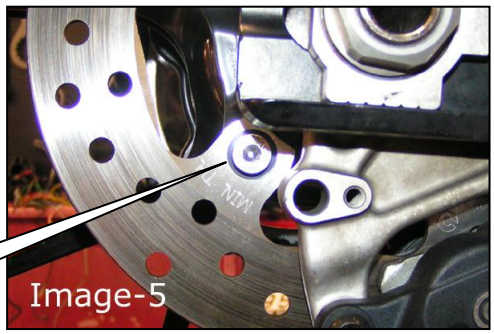


The push button assembly is mounted on the left side handlebar clutch clamp as seen in image-4 using the spacer and longer screw.

Rear Wheel Speed:

- Your TCS kit comes with a set of 5 new CAP bolts to replace the hexagonal ones used to mount the rear disc. These should be tightened and fitted using the same specifications of the standard bolts.
- Fit the new speed sensor to the bracket using one of the M6x16 dome head cap screws, fit using a non-permanent thread lock agent
  - Note that you may find it easier to remove the rubber O ring from the sensor and push it into the bracket first.
- Fit the sensor-mounting bracket to the rear disk hanger. The bracket will locate in the 10mm dia hole and is secured using the remaining M6x16 dome head screw. Fit using a non-permanent thread lock agent
- The sensor gap is fixed and no adjustment is required by the user. The design gap is between 1mm and 2.5mm





Copyright – Bike Sport Developments Ltd 2012

Bike Sport Developments Ltd – UK
Tel 0044 (0)1327 263942 – mail@bikesportdevelopments.co.uk

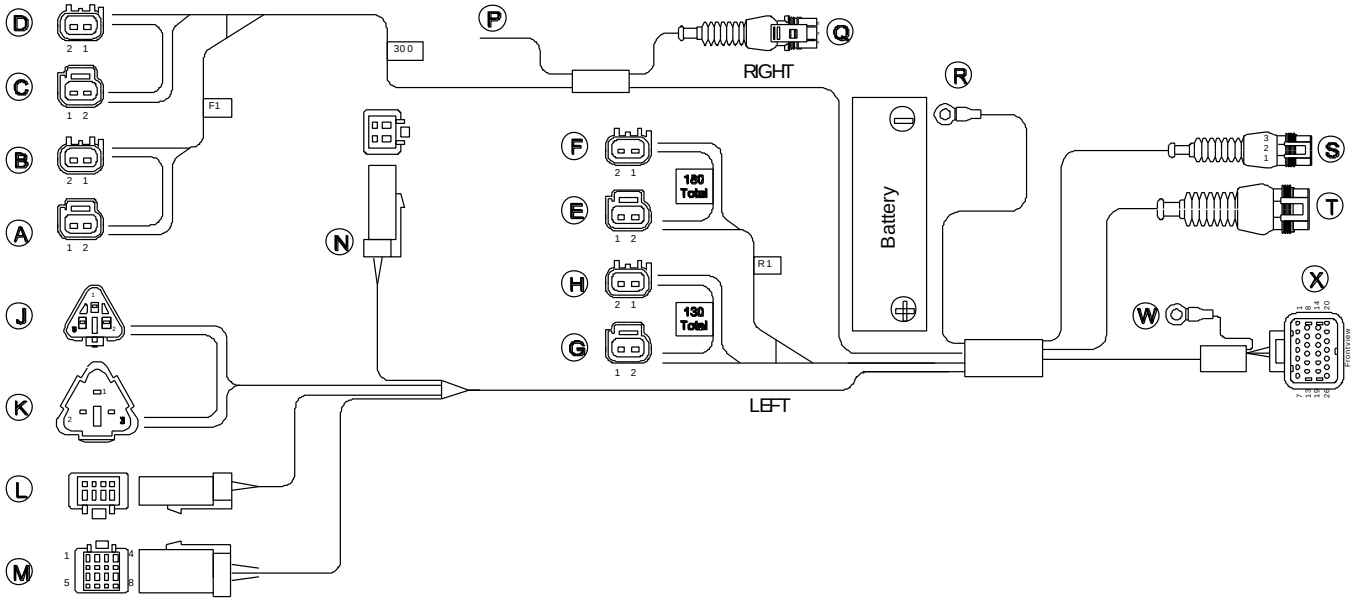
Installation – TCS_4C KTM RC8R Twin Coil AA (v02)

Author – Mick Boasman

Wiring

Disconnect and remove the battery. Then route the wiring loom starting from the back of the bike and along the left side as shown in the diagram below.

Now pass the connections for front cylinder coils A,B,C,D rear speed Q and throttle link P over to the right side of the bike just in-front of the battery.



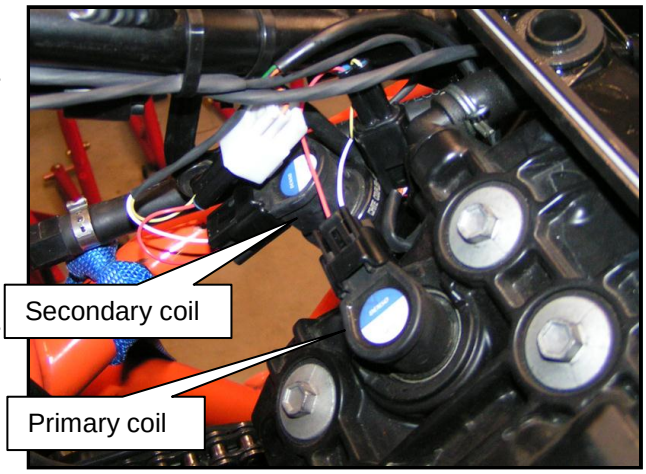
Ignition coils

The front coils **A,B,C,D** are split into 2 groups.

- **A** and **B** are identified by a label **F1** and should be connected between the central primary coil connector and the loom connector - Front Cylinder
- **C** and **D** have no label and should be connected between the side mounted secondary coil connector and the loom connector - Front Cylinder

The rear coils **E,F,G,H** are also split into 2 groups.

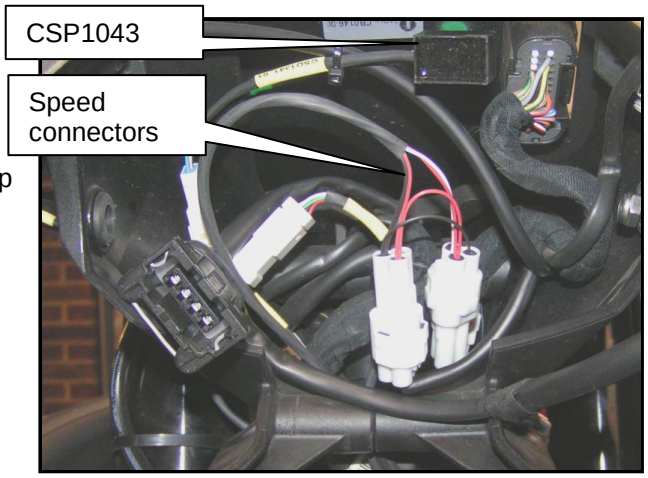
- **E** and **F** are identified by a label **R1** and should be connected between the central primary coil connector and the loom connector – Rear Cylinder.
- **G** and **H** have no label and should be connected between the side mounted secondary coil connector and the loom connector – Rear Cylinder.



Front speed – Connectors J and K

The front speed sensor 3 way triangular connector can be found under the instrument housing. This 3 way connector also provides the power and signal ground to the TCS, as well as the front speed signal.

- Disconnect the front speed sensor and bridge the gap using the male and female 3 way connectors of the new wiring CSW1324
- CSD1341 – This small plug-in module must be fitted at all times to connector **L**. It acts as a signal divider allowing a single front speed sensor to drive both the TCS and the standard dashboard. Without this module neither the TCS nor the standard dash will read the front speed.



Copyright – Bike Sport Developments Ltd 2012

Rear speed – Connector Q

- Route the rear speed sensor along the right side of the swinging arm using the brake hydraulic line as a guide.
- Use the cable ties provided and ensure this cable cannot be damaged or trapped during suspension movement

Wiring – Battery connections R

This vital connection **R** must be connected directly to the battery negative connector, not to the engine block or any other ground source.

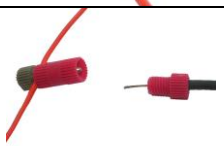
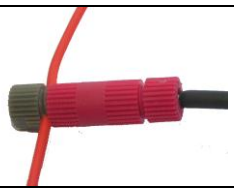
IMPORTANT – Failure to fit the ground securely can lead to misfire / engine not starting / TCS module damage. This is the main power ground for the coil system.

Wiring – TCS module and ground

Connect the wiring loom to the TCS module at connector **X**. It is vitally important that the small ground wire with the 4mm eye (**W**) be connected securely to the M4 stud using the M4 Nyloc nut. Without this the module or coils could be damaged as well as TCS not functioning correctly.

Throttle - B

The throttle input is the single wire **B** of this loom. This needs to be attached to the white signal wire multi-block connector **image-6** located on the right side of the air box using the red quick link provided in the kit, as shown in the steps on the next page:

The quick link is made up of three parts as seen here on the right:	
Using the green section with the slot, push it over the orange throttle signal wire of the bike loom until the wire rests at the bottom of the slot:	
The large red centre section must be fitted the correct way around or the link **will not work.** Locate the end with the sharp pointed tip protruding from the end of the outer body and screw this end onto the green section until it rests firmly against the wire. The sharp tip will pierce the outer sleeve but not sever the inner core of the wire:	
Strip back the sleeve of the throttle input wire on the TCS loom so that 8mm of inner metal core is exposed. Push this into the red cap as seen here on the right with inner core showing:	
Screw this cap and wire into the main body ensuring that metal inner core and wire cores are sandwiched and held securely. Shrink sleeving can be put over this quick link if required.	

Copyright – Bike Sport Developments Ltd 2012

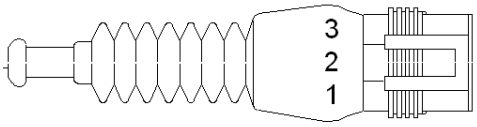
Bike Sport Developments Ltd – UK
Tel 0044 (0)1327 263942 – mail@bikesportdevelopments.co.uk

Installation – TCS_4C KTM RC8R Twin Coil AA (v02)

Author – Mick Boasman

Quick shift – Connector S

Any type of quick shifter with either an 'active high' or 'active low' output can be used. Refer to the WinTc manual for setup of this input



1	Battery +	red
2	ground	black
3	signal	white

PC communication – Connector T

All PC communication is achieved via the 4 way connector, this connector is live and should be protected from water ingress when not being used.

Display TC-Pod – Connector M

Connect this 8 way directly to the TC-Pod display unit

Pit limiter switch input – Connector C

The pit limiter switch CSP1041 links at point **N** and may be mounted to any convenient place accessible by the rider. We do not however make a specific handlebar mounting kit for the RC8

This item is an optional extra and not supplied as part of the kit.

PC Setup

Your TCS module should be loaded with the following bike :

BIKE - RC8R_TCOIL.BIKE
TYRE – To suit your installation
CONFIG - TCS_4C_Base_35_01.CONFIG

Status **Position** offset value –
Stronger - **0.21 to 0.32** – Refer to **WinTC View Data**
Normal - **0.32 to 0.37** – Refer to **WinTC View Data**
Weaker - **0.37 to 0.47** – Refer to **WinTC View Data**

Note : The WinTC installation guide can be found in the manual - Win-TC 4C manual_v2.05_a.pdf

Copyright – Bike Sport Developments Ltd 2012

Copyright – Bike Sport Developments Ltd 2012